

Fig. 1

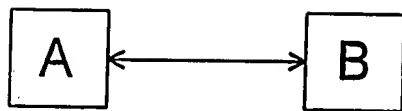


Fig. 2A

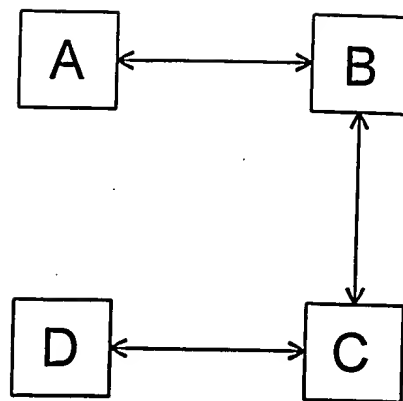


Fig. 2B

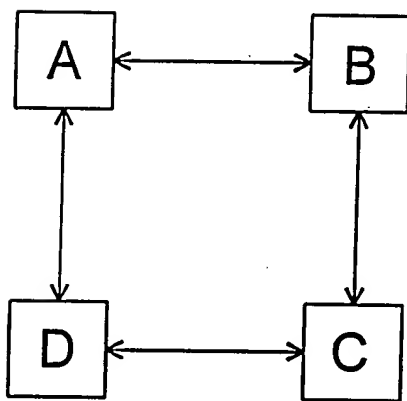


Fig. 2C

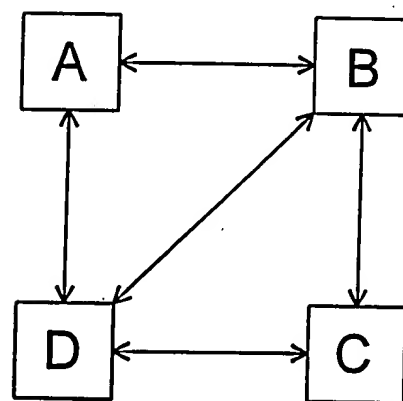


Fig. 2D

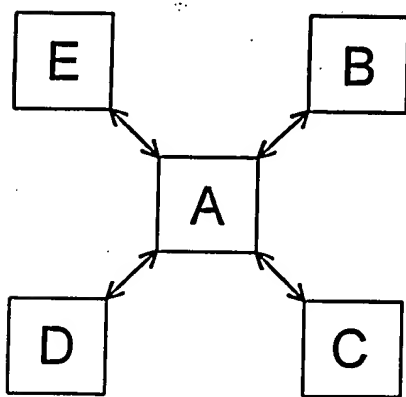


Fig. 2E

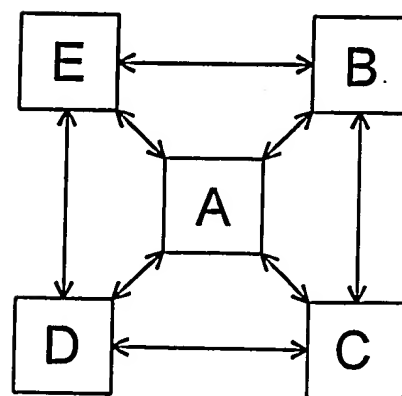


Fig. 2F

100

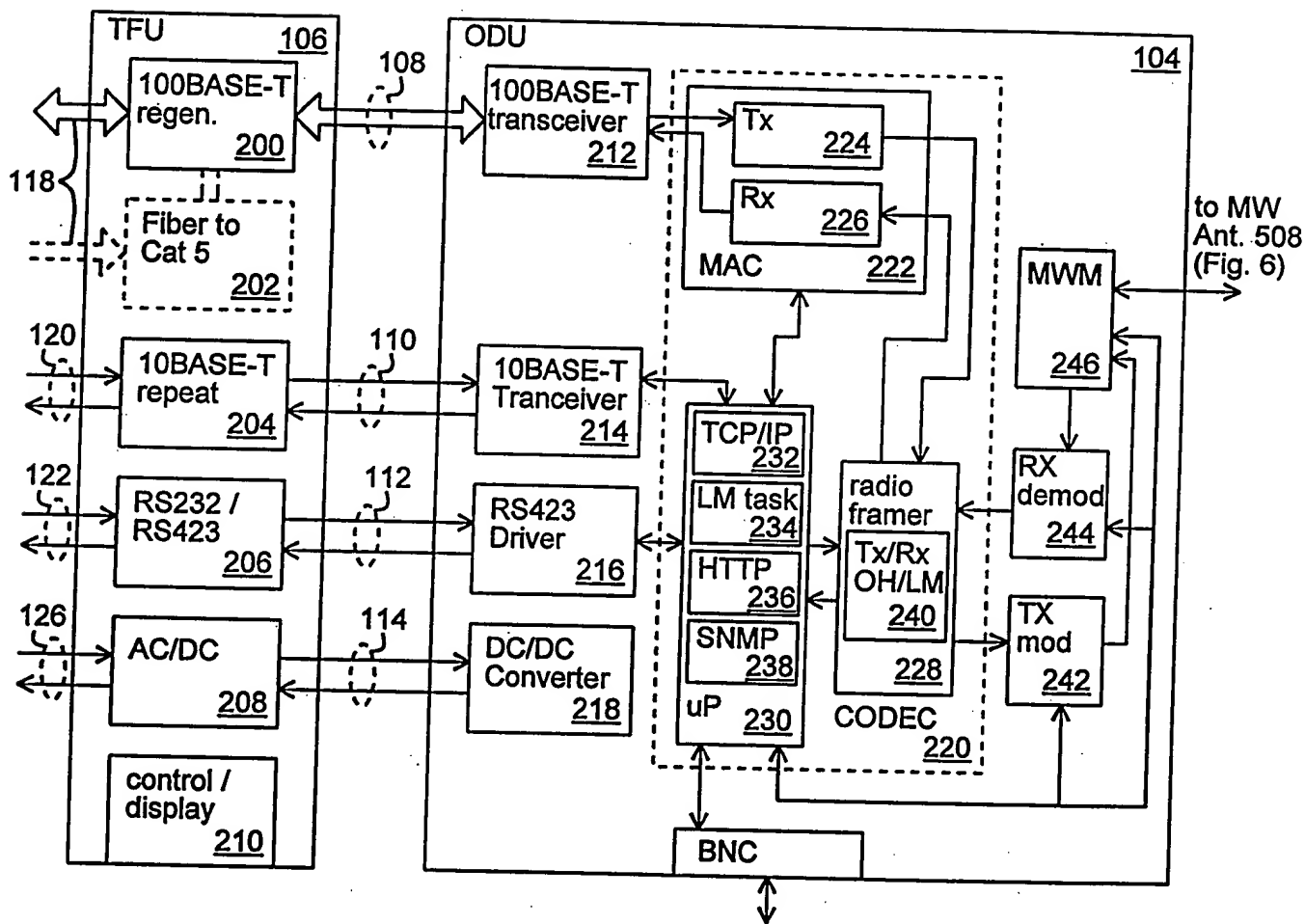


Fig. 3

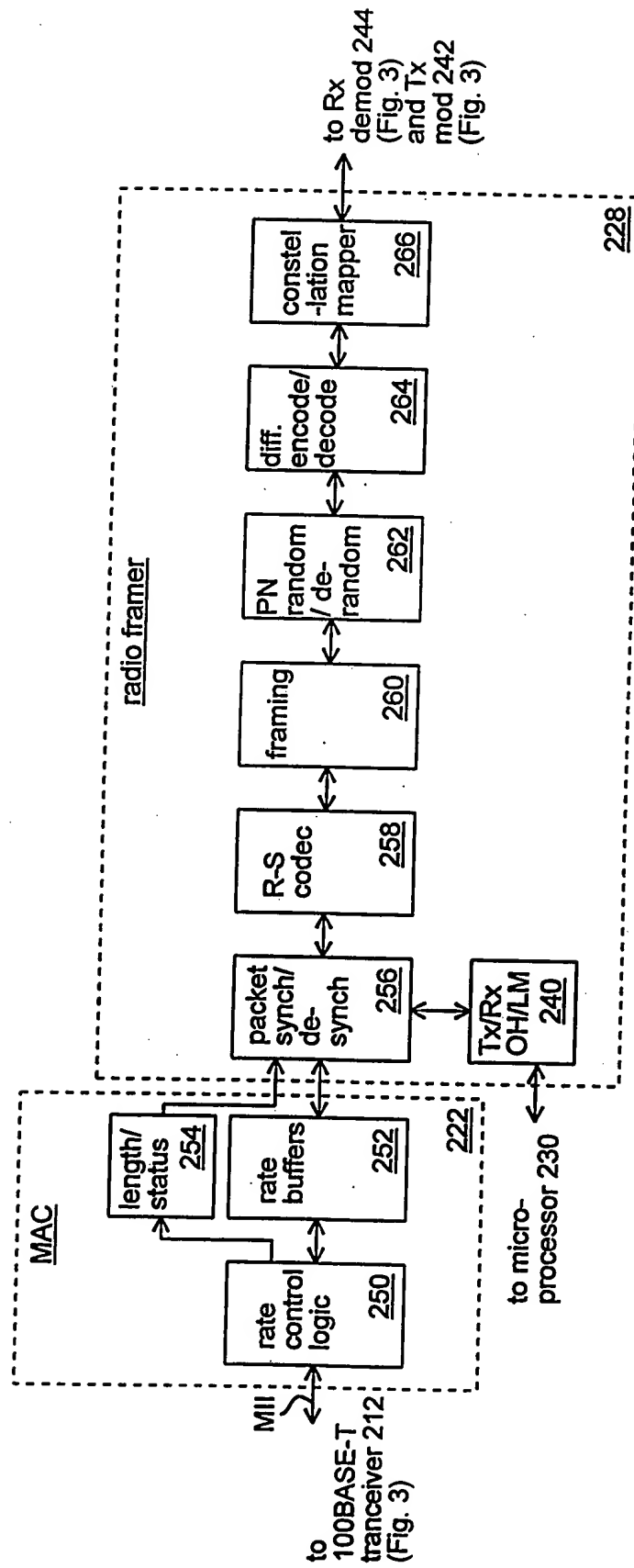


Fig. 4

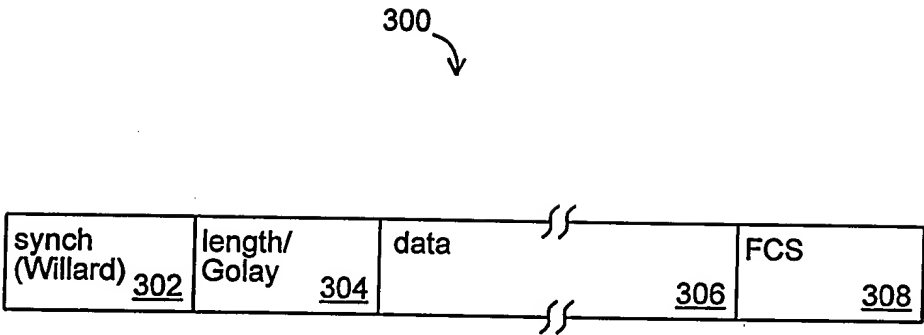


Fig. 5

09150764-092998

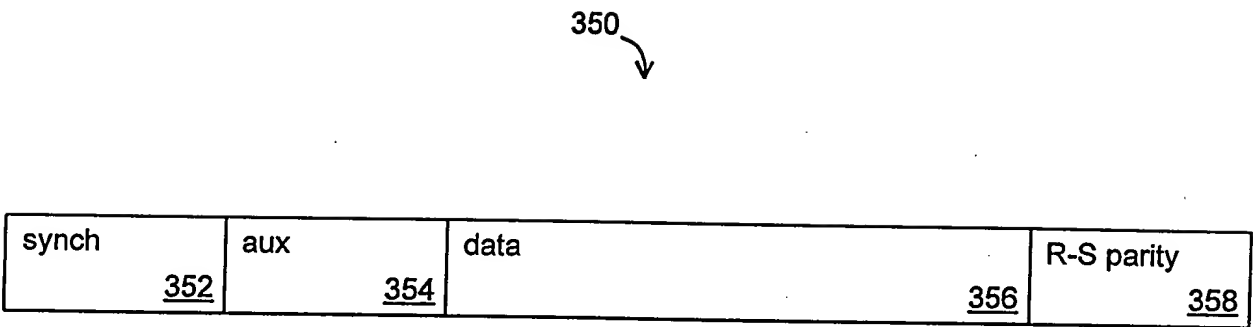


Fig. 6

09158764-192398

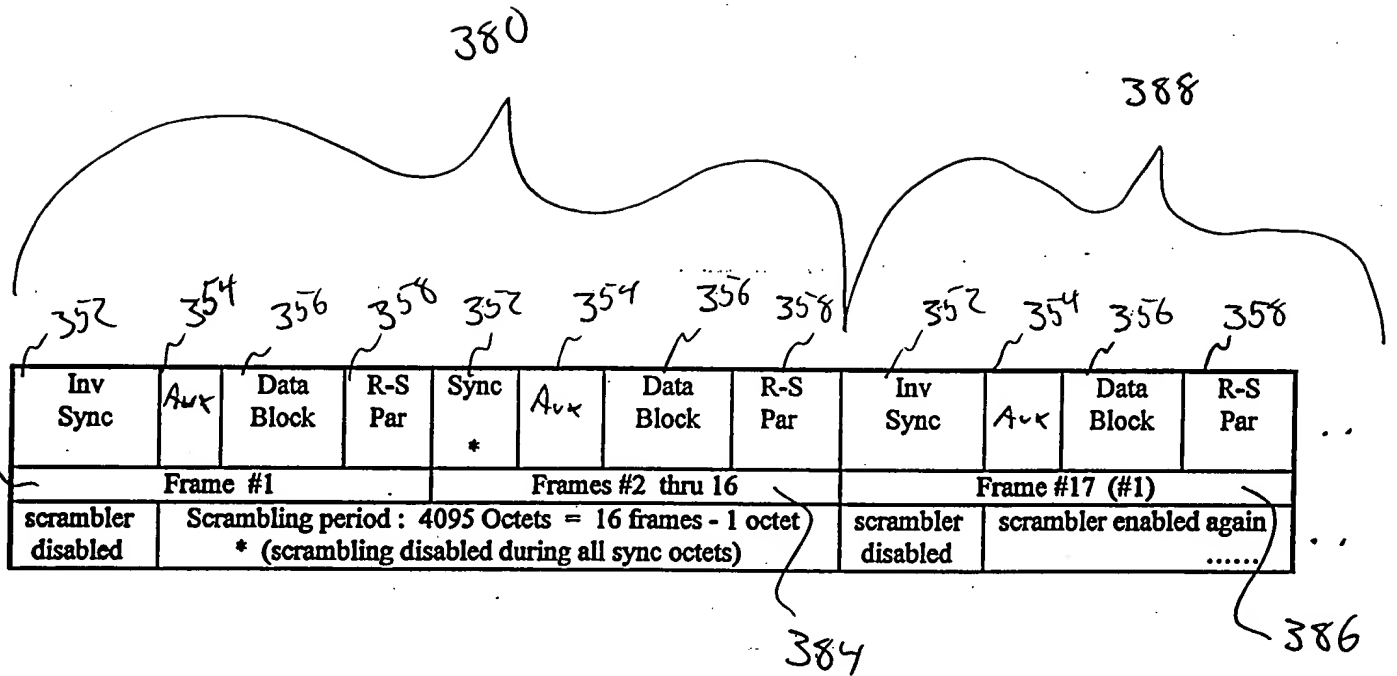


Fig. 7

00158764-002398
002360-4928560

262 ↓

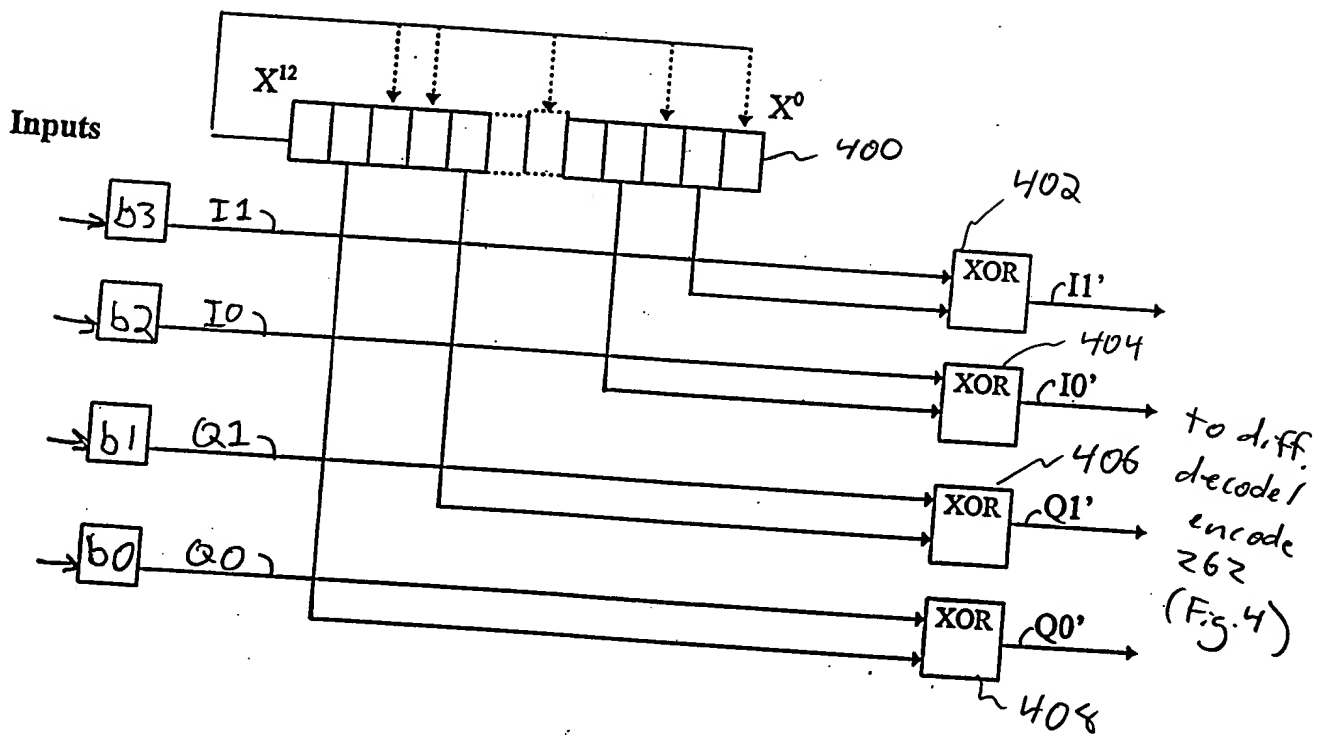


Fig. 8

$Quad = 2 * I1' + Q1' ;$ -- Map Quadrant Tag [0 1 2 3]
 $Phi = [0 1 3 2] ;$ -- to Angle = [0 1 3 2]
 $Angle = Phi(Quad)$
 $Sum = (Sum + Angle) \text{ modulo } 4 ;$
 $I1'' = \text{bit 1 of Sum} ;$ $I0'' = I0' ;$
 $Q1'' = \text{bit 0 of Sum} ;$ $Q0'' = Q0' ;$

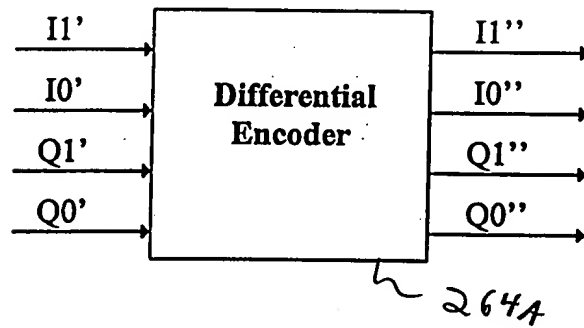


Fig. 9

$\text{Angle} = 2 * \text{RxIs}' + \text{RxQs}' ;$
 $\text{Phi}' = [0 \ 1 \ 3 \ 2] ;$
 $\text{Diff} = (\text{Phi}'(\text{Angle}) - \text{Phi}_0) \text{ modulo } 4 ;$
 $\text{Phi}_0 = \text{Phi}'(\text{Angle}) ;$
 $\text{RxIs} = \text{bit } 1 \text{ of } \text{Phi}'(\text{Diff}) ;$
 $\text{TxIs} = \text{bit } 0 \text{ of } \text{Phi}'(\text{Diff}) ;$
 $\text{RxIm} = \text{RxIm}' ;$
 $\text{RxQm} = \text{RxQm}' ;$

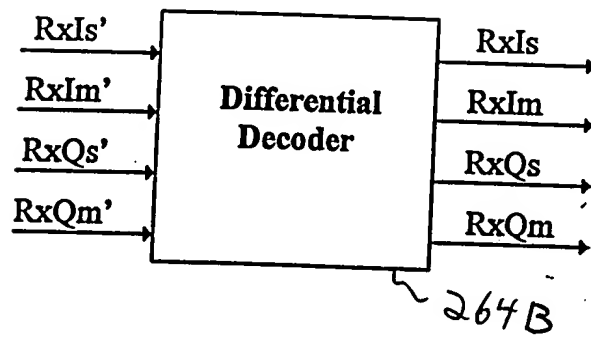


Fig. 10

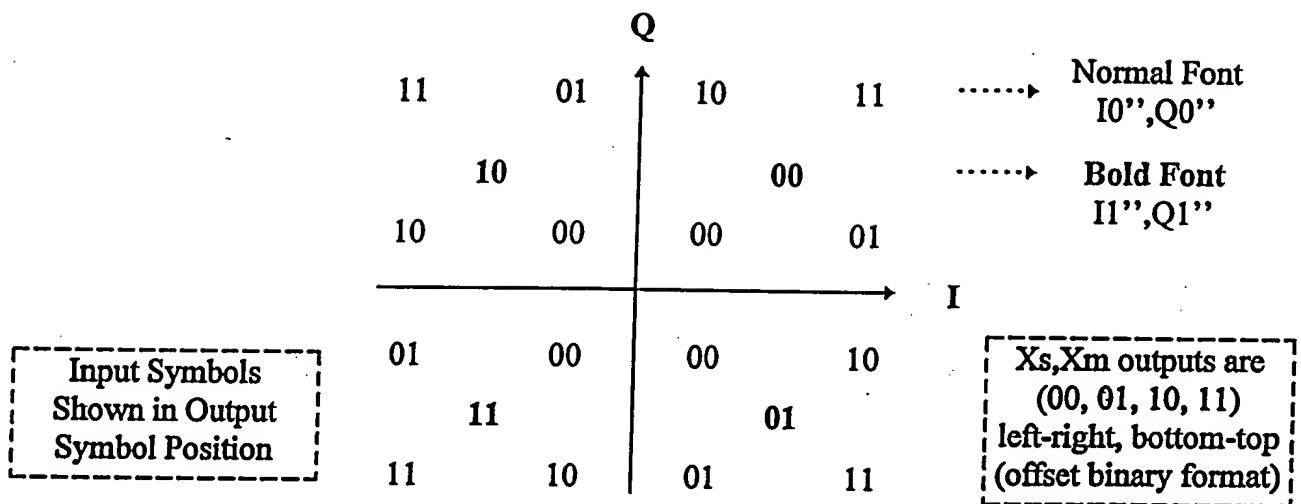
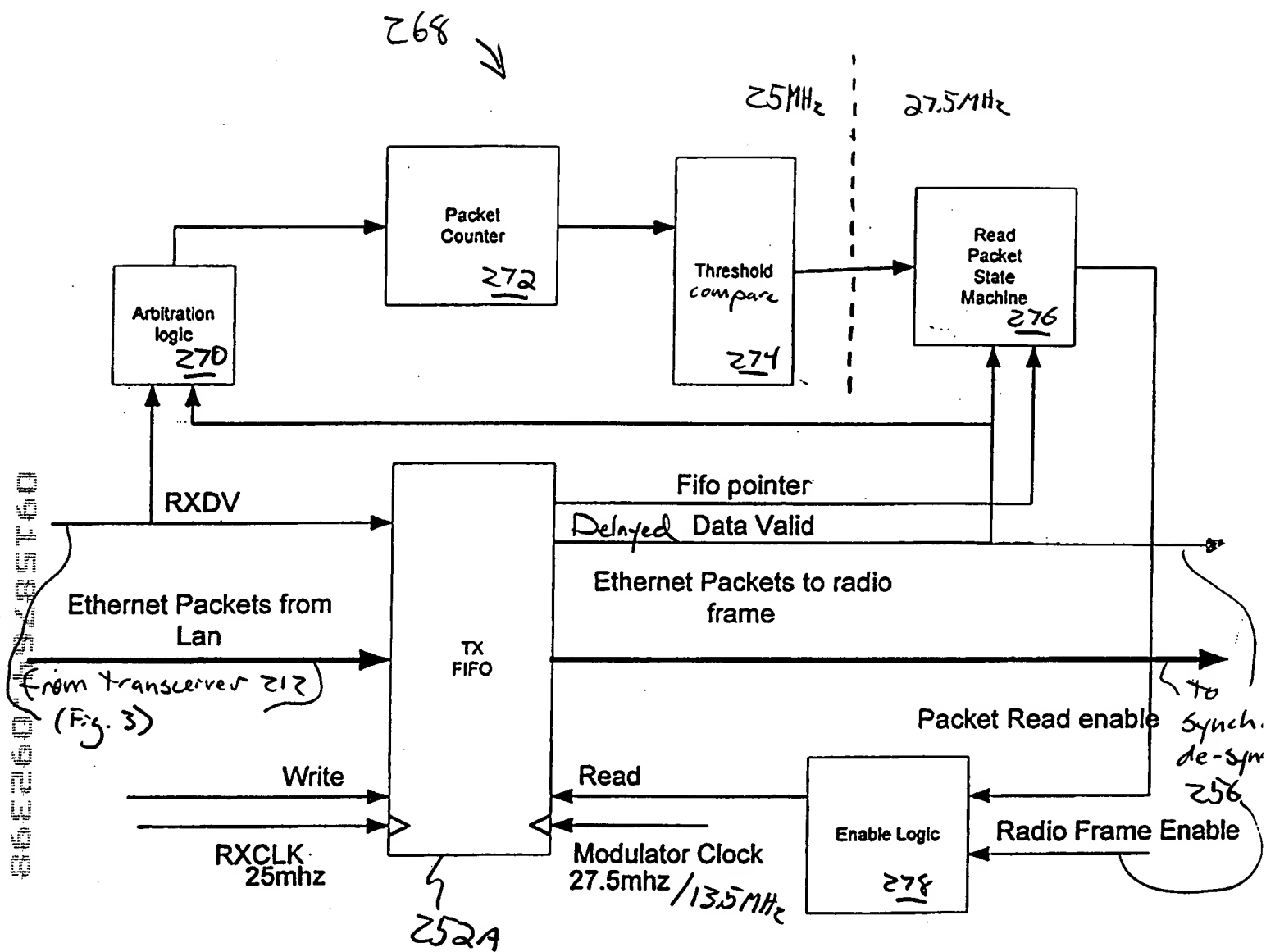


Fig. 11



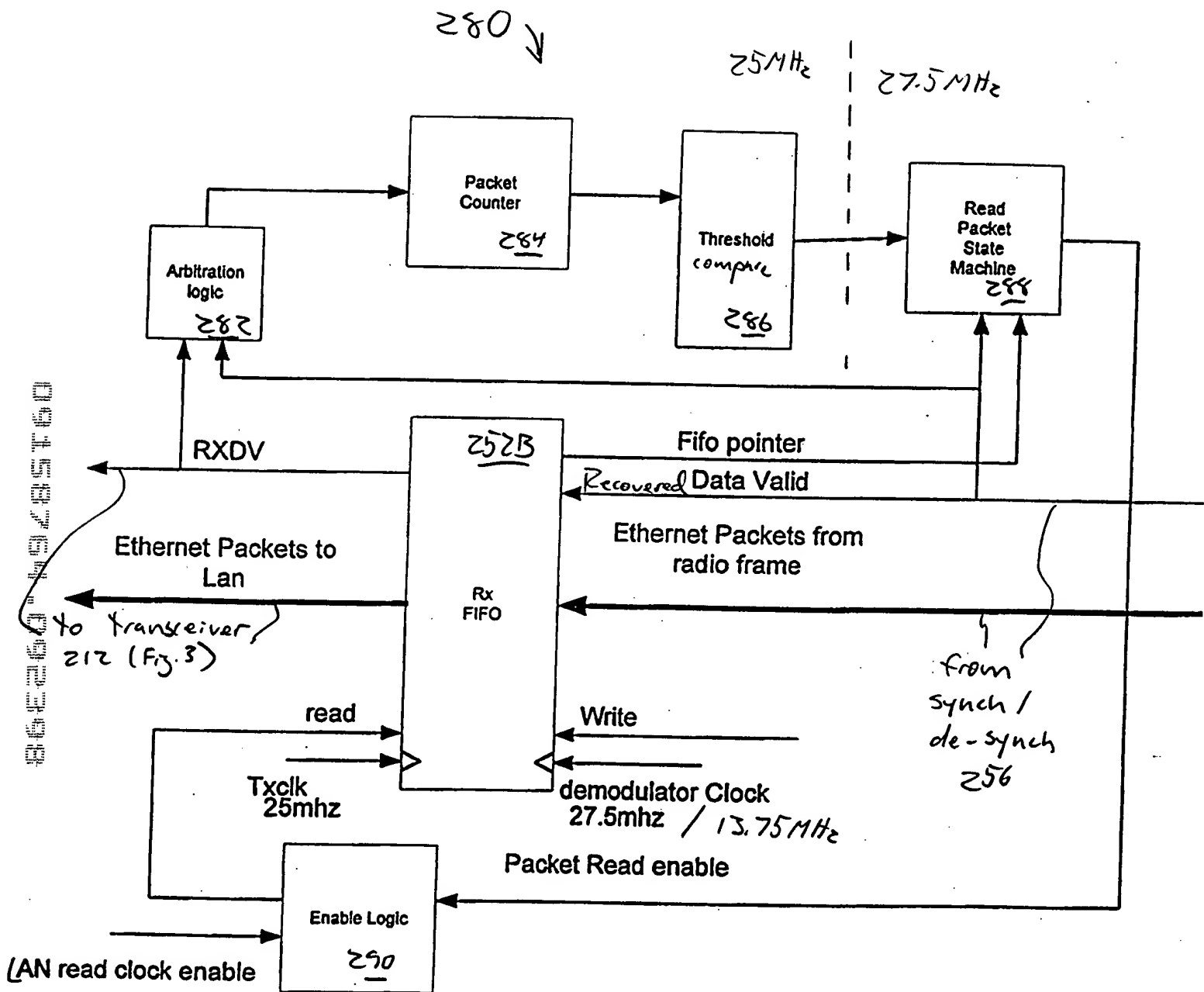


Fig. 13

09158764.092390

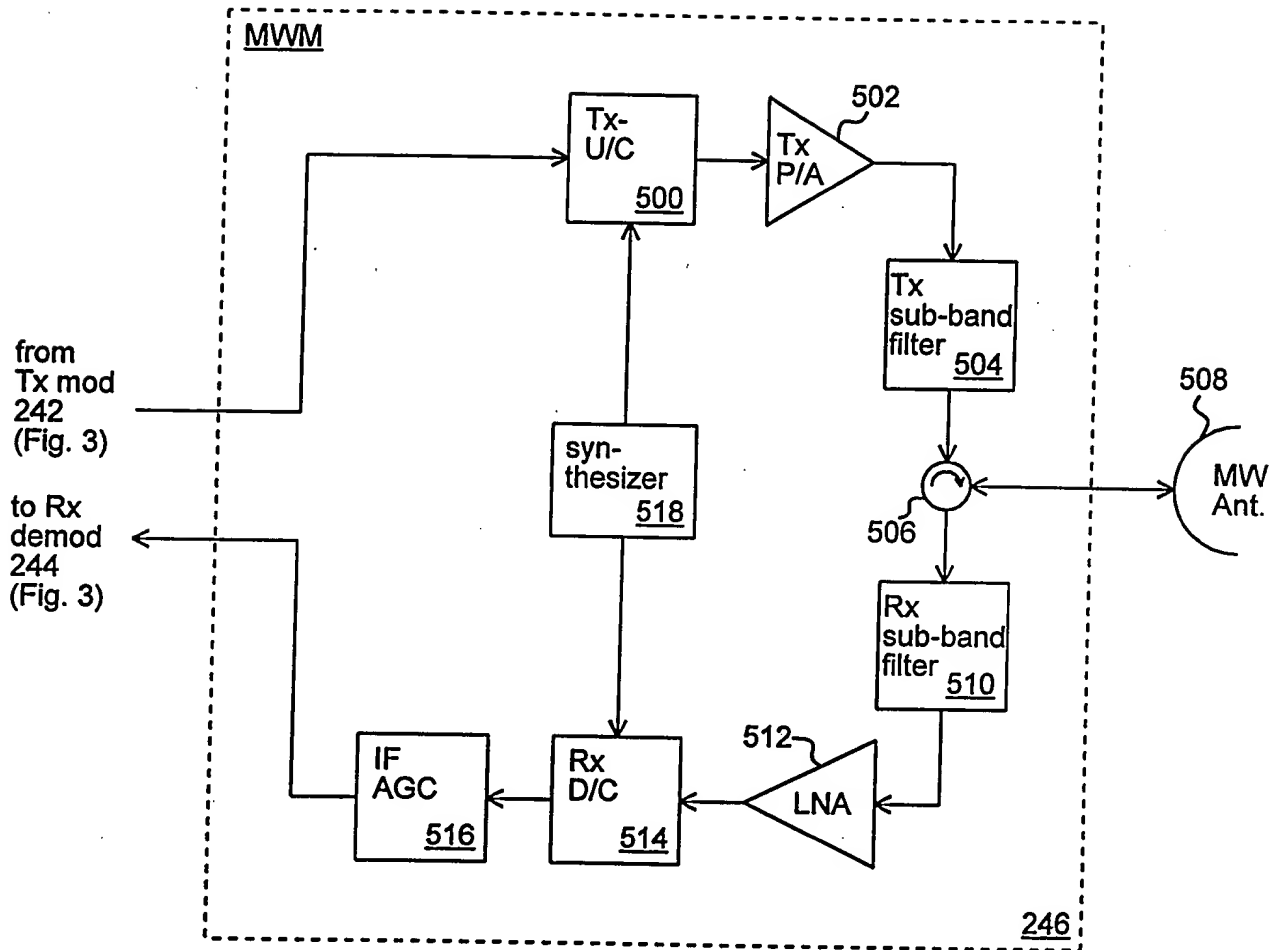


Fig. 14

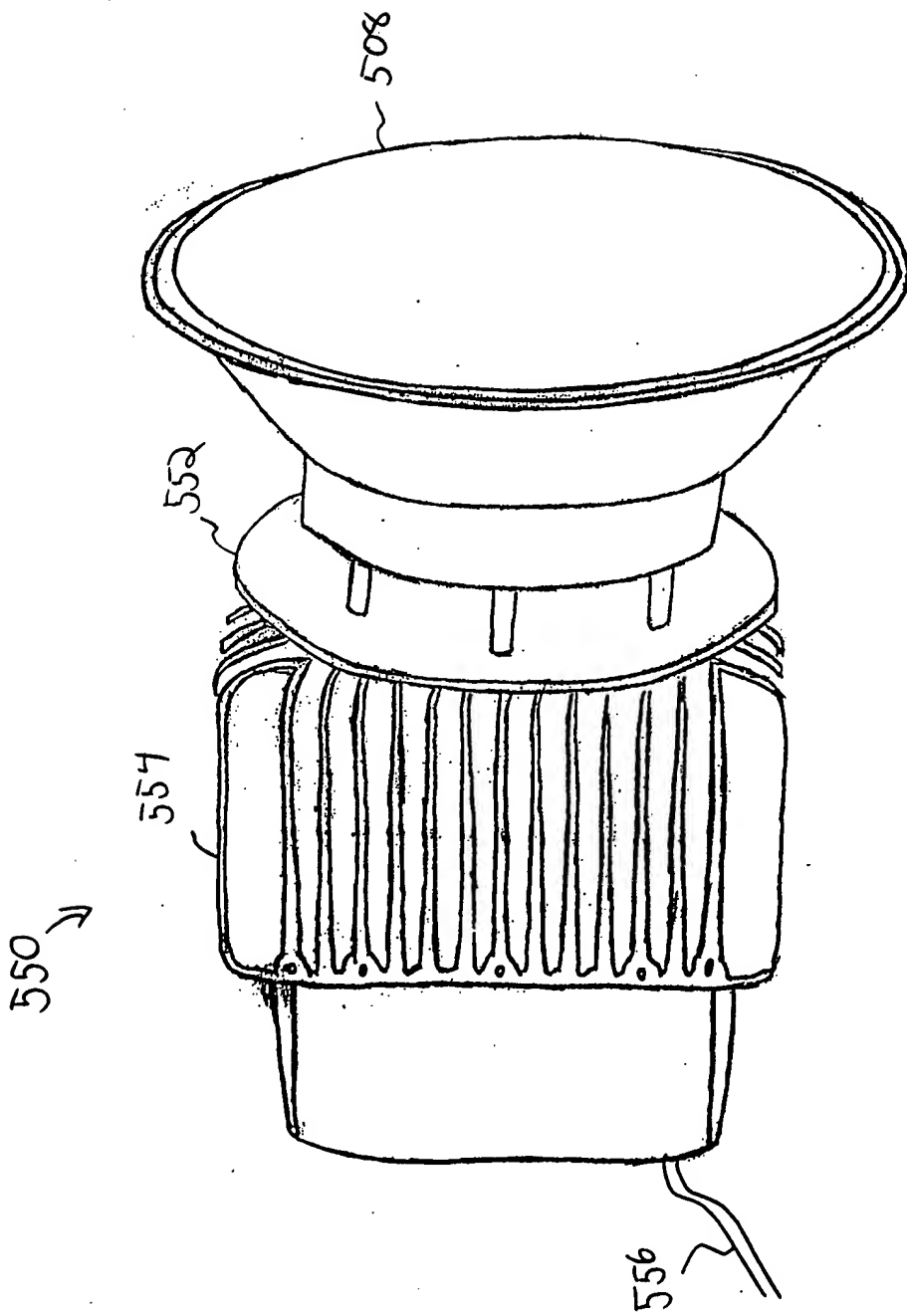
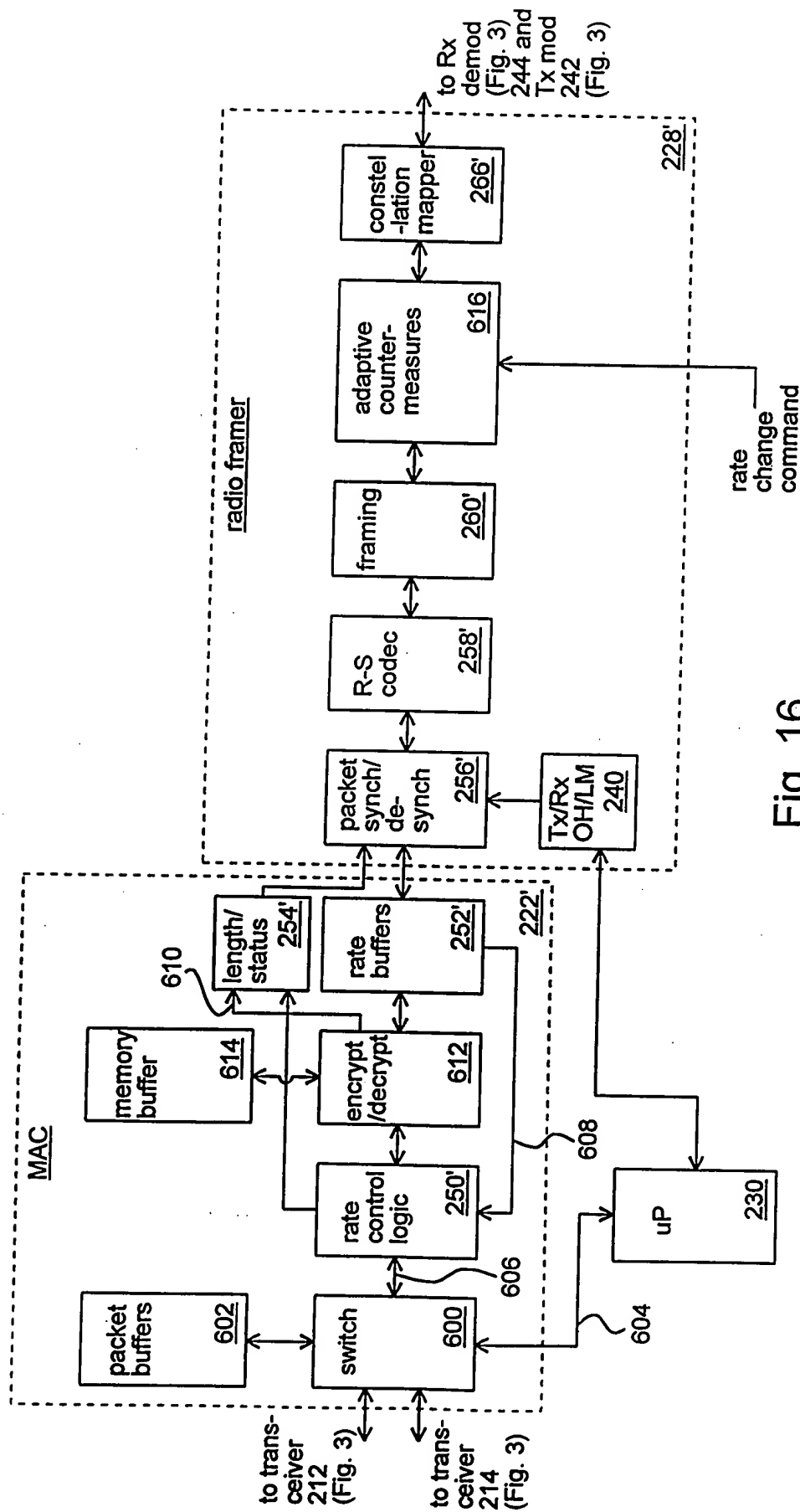


Fig. 15



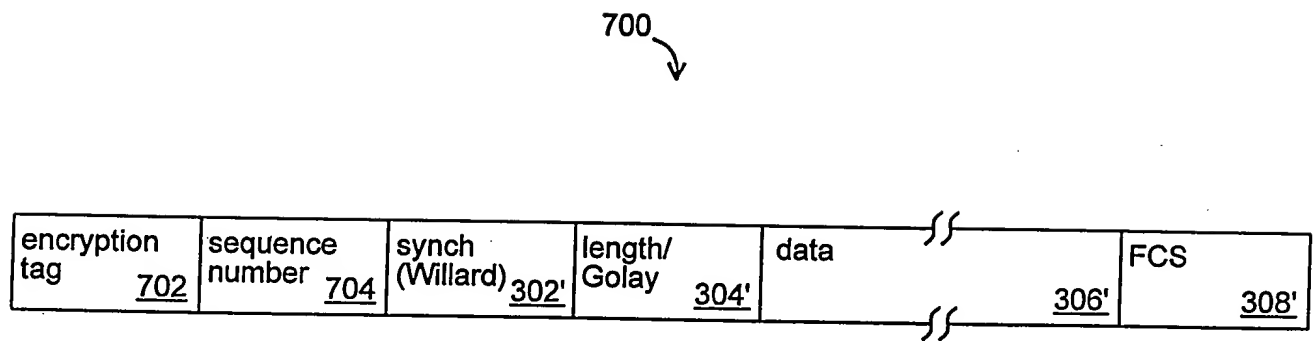
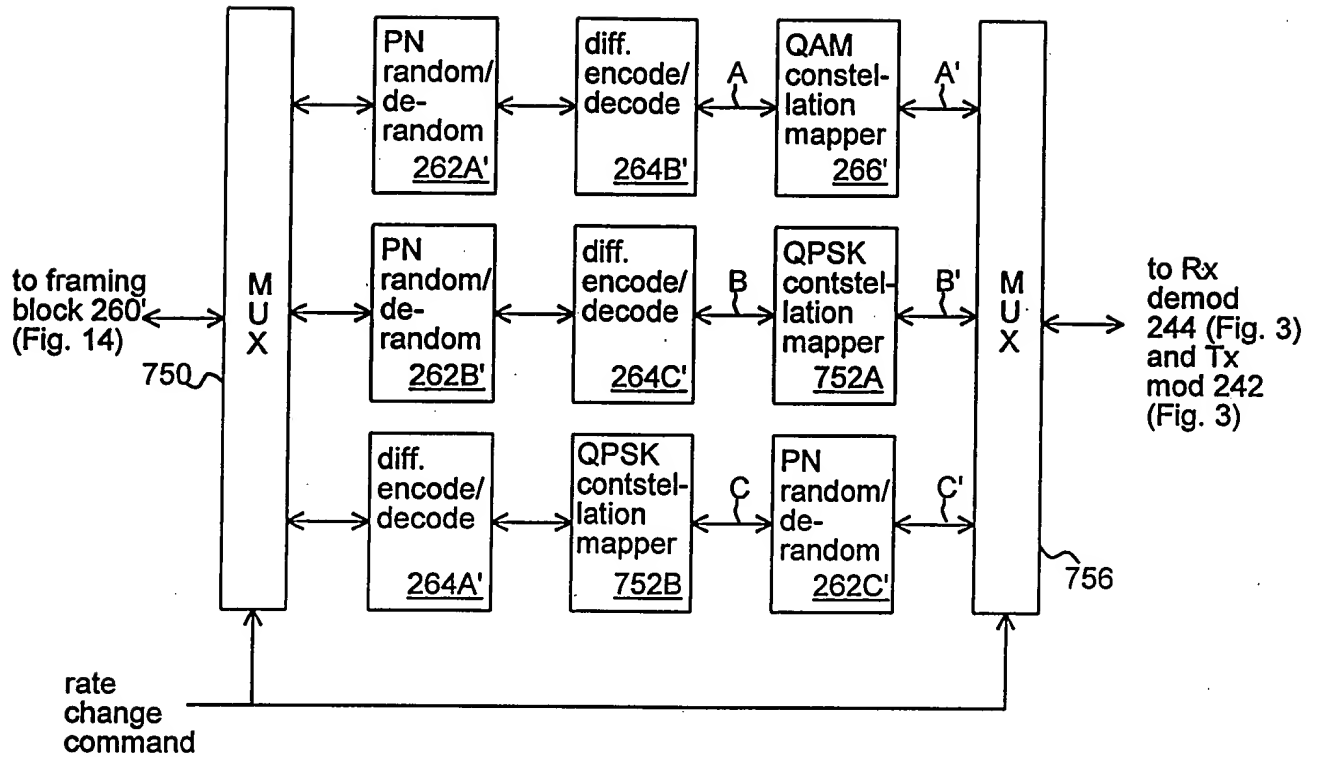


Fig. 17

616



A: data rate = 4 bits/symbol, symbol rate = 27.5 Msymbols (mega-symbols)/second

A': data rate = 4 bits/symbol, symbol rate = 27.5 Msymbols/second

B: data rate = 2 bits/symbol, symbol rate = 27.5 Msymbols/second

B': data rate = 2 bits/symbol, symbol rate = 27.5 Msymbols/second

C: data rate = 2 bits/symbol, symbol rate = 3.4375 Msymbols/second

C': data rate = 2 bits/symbol, symbol rate = 27.5 Msymbols/second

Fig. 18

Typical Rain Fade Condition

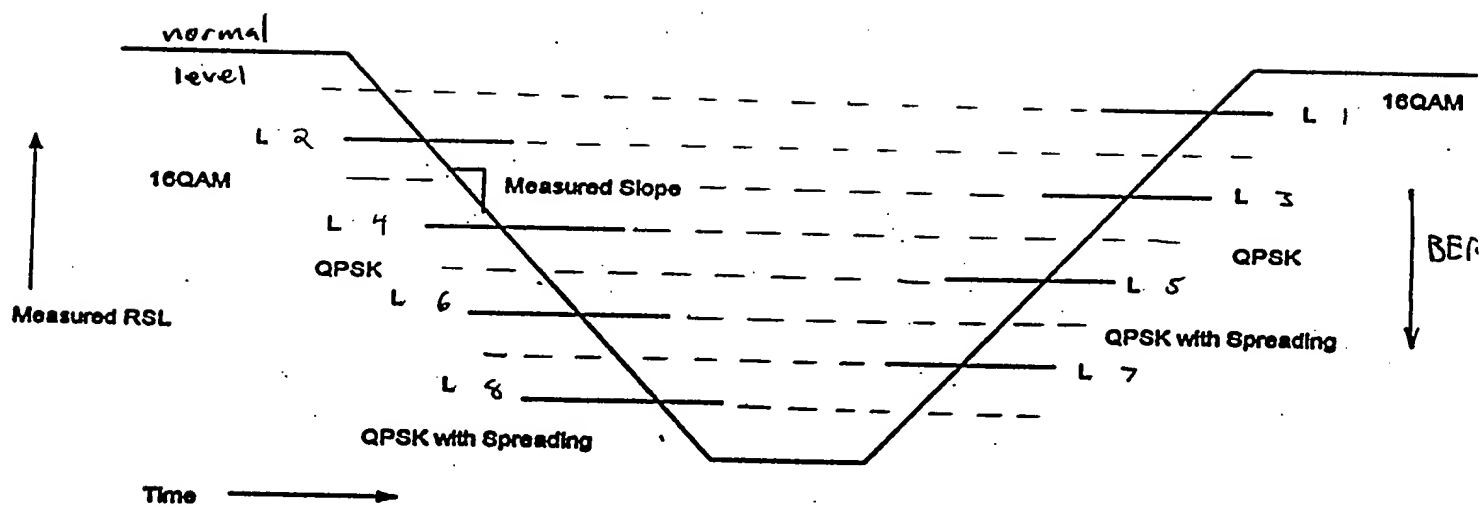


Fig. 19

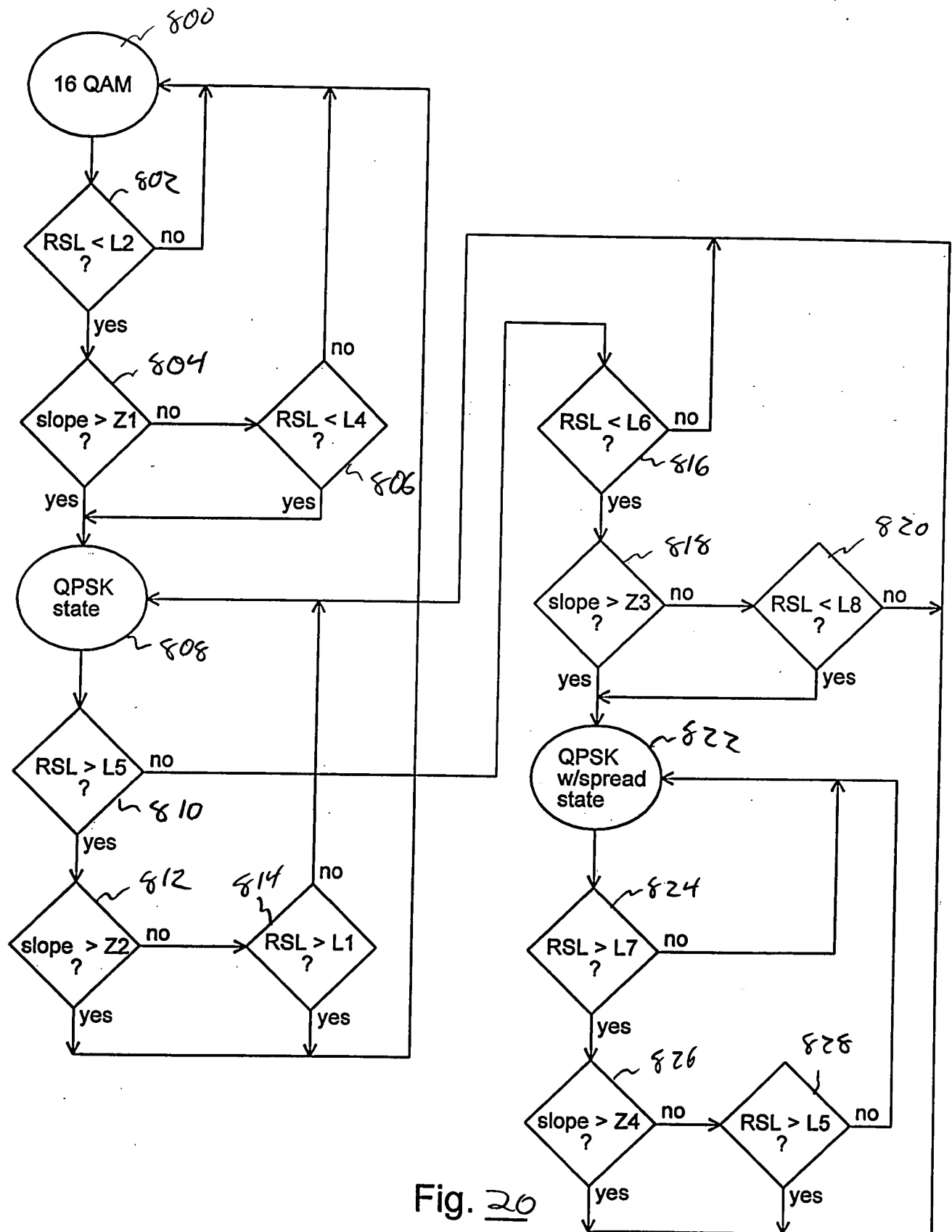


Fig. 20

09158764-092398
000000-49285T60

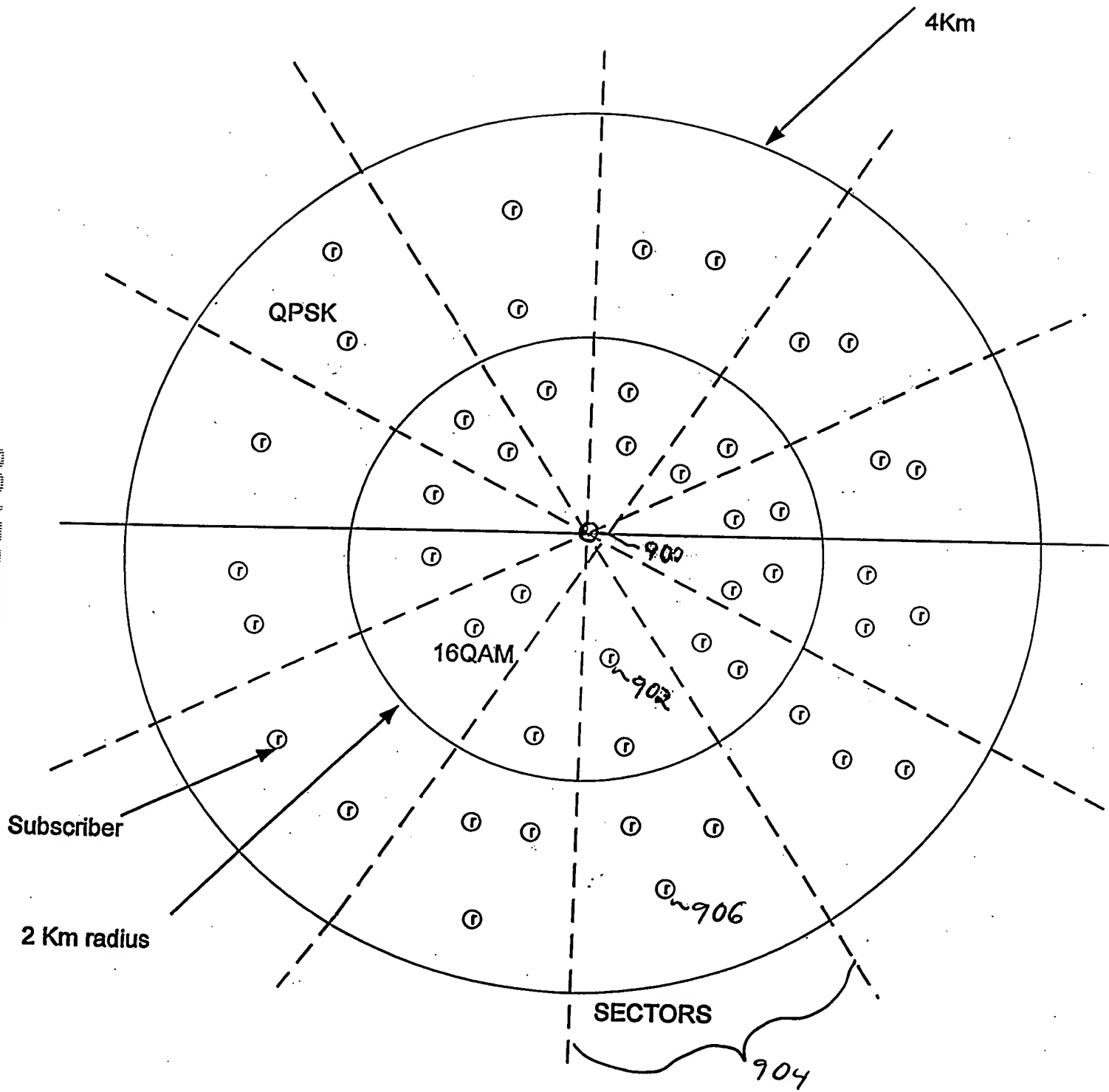


Fig. 21

09158764.092398
86E260"49285T60

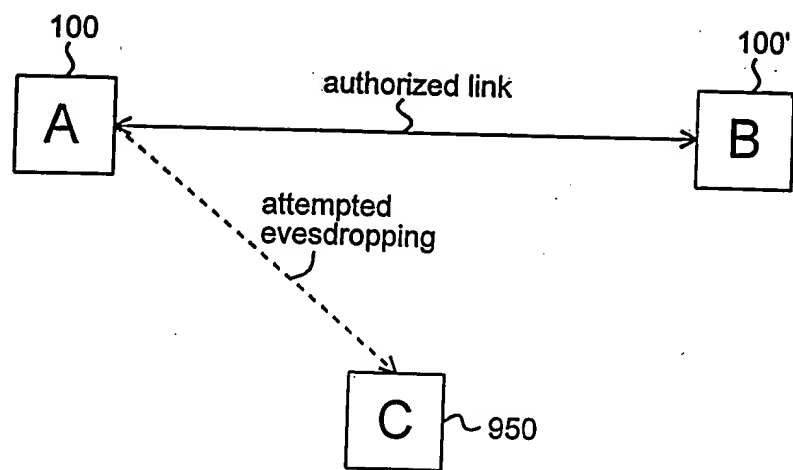


Fig. 22

354260" 49285T63

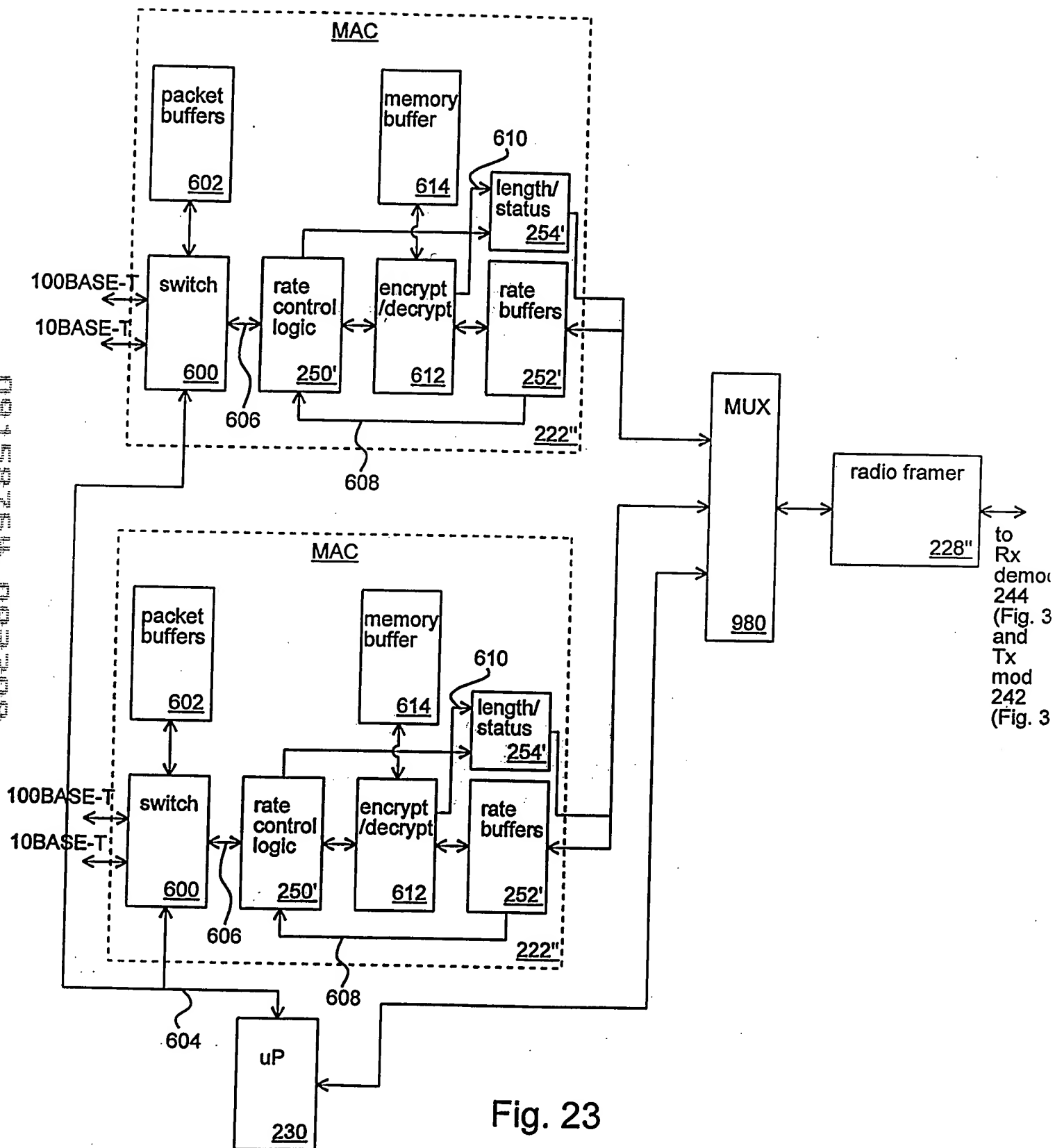


Fig. 23